

# Don't Poo in the Blue...

Human sewage in the ocean can cause human illnesses.

## What happens?



Boat Heads are emptied in waterways or people poop directly in the water. This waste may contain virus particles. Infected people can shed virus even when they are not showing symptoms.



Oysters and clams filter virus particles from the contaminated water. The viruses become concentrated and survive inside oysters and clams. Viruses can also remain in the environment for a long period of time without losing the ability to infect people.



The oysters and clams are harvested and served, usually raw or lightly steamed. This light cooking does not inactivate the virus, and people can become ill. They may then spread the virus to others. People usually recover without problems, but dehydration is a concern, and may rarely result in hospitalization.

**Norovirus** (the “stomach flu”) causes nausea, vomiting, diarrhea, stomach pain, and sometimes fever. There are millions of cases each year in the U.S. alone, resulting in 1,000s of hospitalizations and 100s of deaths. It spreads through the fecal-oral route (poop to mouth), by way of food, water, objects, surfaces, and other people.

## Your poop matters.

Just one person’s poop is enough to cause an outbreak.

- 1 gram of poop, **about the weight of a fish hook**, can contain millions of virus particles.
- It only takes 10-100 viruses to get sick.
- The waste from **one person** can contaminate an area about the **size of 25 football fields**.

Boaters once contaminated a U.S. Gulf Coast waterway by dumping human waste overboard. Oysters harvested from that area caused a norovirus outbreak that sickened 200 people across 6 states. It only took this one incident to cause the outbreak.



## Reduce the Risk

- 1) **Know the symptoms of norovirus and stay off the boat while ill.**
- 2) **Poop with care:** use a toilet or container for poop & dispose of the contents at marina stations if possible.
- 3) **Disinfect all items that have contact with poop; use liquid chlorine bleach.** Use 1.5 cups of bleach/1 gallon of water & let it sit for at least 5 minutes. Repeat then clean.
- 4) **Wash hands with soap and water.** Do this often, especially after using the bathroom. Do not rely on hand sanitizers alone, they are not completely effective against norovirus.